



## Standard Operating Procedure Use of the Vapor Pin™ Drilling Guide and Secure Cover

July 16, 2012

### Scope:

This standard operating procedure (SOP) describes the methodology to use the Vapor Pin™ Drilling Guide and Secure Cover to install and secure a Vapor Pin™ in a flush mount configuration.

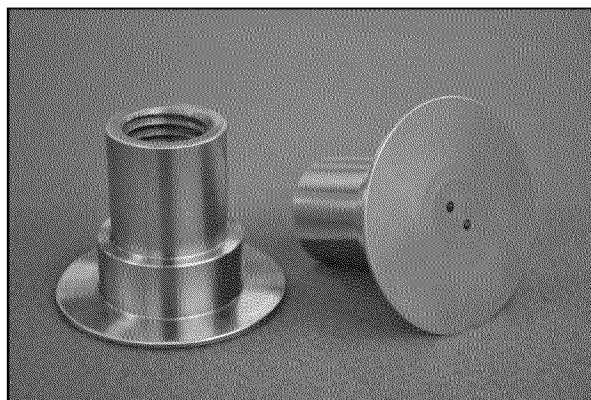
### Purpose:

The purpose of this SOP is to detail the methodology for installing a Vapor Pin™ and Secure Cover in a flush mount configuration. The flush mount configuration reduces the risk of damage to the Vapor Pin™ by foot and vehicular traffic, keeps dust and debris from falling into the flush mount hole, and reduces the opportunity for tampering. This SOP is an optional process performed in conjunction with the SOP entitled "Installation and Extraction of the Vapor Pin™". However, portions of this SOP should be performed prior to installing the Vapor Pin™.

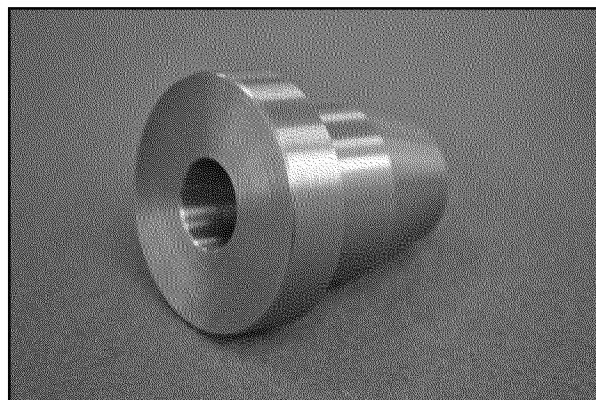
### Equipment Needed:

- C Vapor Pin™ Secure Cover (Figure 1);
- C Vapor Pin™ Drilling Guide (Figure 2);
- C Hammer drill;
- C 1½-inch diameter hammer bit (Hilti™ TE-YX 1½" x 23" #00293032 or equivalent);
- C 5/8-inch diameter hammer bit (Hilti™ TE-YX 5/8" x 22" #00226514 or equivalent);
- C assembled Vapor Pin™;
- C #14 spanner wrench;
- C Wet/Dry vacuum with HEPA filter (optional); and

- C personal protective equipment (PPE).



**Figure 1.** Vapor Pin™ Secure Cover.



**Figure 2.** Vapor Pin™ Drilling Guide.

### Installation Procedure:

- 1) Check for buried obstacles (pipes, electrical lines, etc.) prior to proceeding.
- 2) Set up wet/dry vacuum to collect drill cuttings.
- 3) While wearing PPE, drill a 1½-inch diameter hole into the concrete slab to a

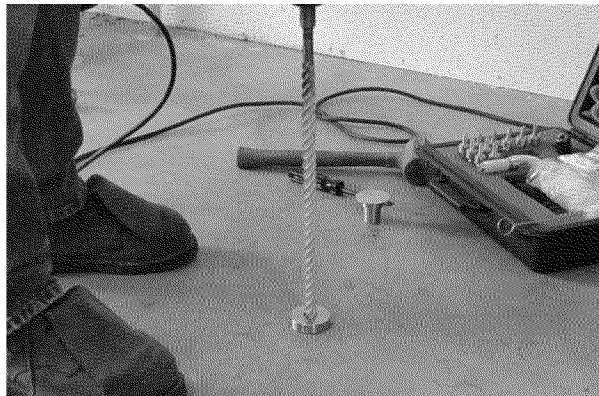
depth of approximately 1 3/4 inches. Pre-marking the desired depth on the drill bit with tape will assist in this process.

- 4) Remove cuttings from the hole and place the Drilling Guide in the hole with the conical end down (Figure 3). The hole is sufficiently deep if the flange of the Drilling Guide lies flush with the surface of the slab. Deepen the hole as necessary, but avoid drilling more than 2 inches into the slab, as the threads on the Secure Cover may not engage properly with the threads on the Vapor Pin™.



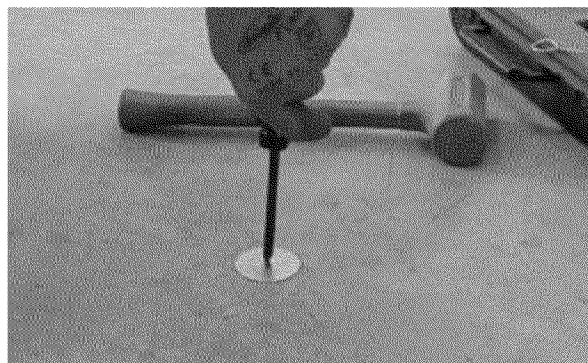
**Figure 3.** Installing the Drilling Guide.

- 5) When the 1½-inch diameter hole is drilled to the proper depth, replace the drill bit with a 5/8-inch diameter bit, insert the bit through the Drilling Guide (Figure 4), and drill through the slab. The Drilling Guide will help to center the hole for the Vapor Pin™, and keep the hole perpendicular to the slab.
- 6) Remove the bit and drilling guide, clean the hole, and install the Vapor Pin™ in accordance with the SOP "Installation and Extraction of the Vapor Pin™."



**Figure 4.** Using the Drilling Guide.

- 7) Screw the Secure Cover onto the Vapor Pin™ and tighten using a #14 spanner wrench by rotating it clockwise (Figure 5). Rotate the cover counter clockwise to remove it for subsequent access.



**Figure 5.** Tightening the Secured Cover.

Limitations:

On slabs less than 3 inches thick, it may be difficult to obtain a good seal in a flush mount configuration with the Vapor Pin™.